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| RALEIGH, DONALD L | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/565,043 | SUZURI ET AL. | |
| | Examiner | Art Unit | |
| | DONALD L. RALEIGH | 2879 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *26 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16-22 and 35-46* is/are allowed.

6)☒ Claim(s) *1-15,23-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/09/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

The affidavit under 37 CFR 1.132 filed September 26, 2008 is insufficient to overcome the rejection of claims 1-15 and 23-34 based upon the prior art as set forth in the last Office action because: the independent claims have been amended and include new issues that necessitate a new search.

The affidavit under 37 CFR 1.132 filed September 26, 2008 is sufficient to overcome the rejection of claims 16-22 and 35-46 based upon the lack of sufficient data in the prior art to determine the percentage of light emitted.

The Amendment, filed on September 26, 2008 has been entered and acknowledged by the Examiner.
Claims 1-46 are pending in the instant application.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

**Claims 1, 3, 24-25, and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu (US Patent No. 6,541,909) in view of Thompson et al (US PG Pub. No. 2003/0068528).**

**Regarding Claim 1**, Motomatsu discloses in figure 2, an organic electroluminescent element (abstract, line 1) comprising an anode (2) and a cathode (6) having therebetween a light emitting layer (4) and hole blocking layer (7) provided adjacent to the light emitting layer (4) and between the light emitting layer and the cathode (6).

Although Motomatsu discloses that the material of the light emitting layer (4) and the hole blocking layer (7) are luminescent which could be phosphorescent, Motomatsu fails to specifically disclose wherein the luminescent layer (4) or the hole blocking layer (7) contain phosphorescent compounds.

In the same field of endeavor, Thompson (528) teaches using a phosphorescent compound in both the emissive layer and the hole blocking layer (Paragraph [0131], lines 7-12) to enhance the electron conduction and electron injection properties of the hole blocking layer (Paragraph [0132], lines 1-2).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the phosphorescent material in both the emissive and hole blocking layers, as taught by Thompson (528), in the luminescent device of Motomatsu, to enhance the electron conduction and electron injection properties of the hole blocking layer.

Furthermore, Motomatsu discloses a content of the luminescent compound contained in hole blocking layer (7) is in the range of 0.1 to 20% of a content of the luminescent compound contained in the light emitting layer (4).

The surface areas of the luminescent layer and the hole blocking layer will be the same but their volumes will be different. The thickness of the luminescent layer is 50 nm (Column 4, lines 30-31) and the thickness of the hole blocking layer (7) is 15 nm (Column 4, line 34). Therefore, the volume of the luminescent layer (4) is 50/15 times the volume of the hole blocking layer (7) or 3.33 times the volume. The doping of the luminescent layer (4) by volume is 1 to 10% (Column 4, lines 20-21) and the doping of the hole blocking layer (7) is .6 to 6% (Column 4, line 22). Then the amount of material in the hole blocking layer (7) in relation to the amount of material in the luminescent layer (4) will be:

.6 %/(3.33)(1%) to 6%/(3.33)(10%) or .18 (18%) which is within the claimed range.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to substitute the phosphorescent material suggested by Thompson (528), as the luminescent material used by Motomatsu in the emissive and hole blocking layers, to enhance the electron conduction and electron injection properties of the hole blocking layer.

**Regarding Claim 3**, Motomatsu discloses the organic electroluminescent element wherein the luminescent compound contained in the light emitting layer is the same as the luminescent compound contained in hole blocking layer 1 (Column 4, lines 7-9) but fails to specify that this luminescent compound is phosphorescent.

In the same field of endeavor, Thompson (528) teaches using a phosphorescent compound in both the emissive layer and the hole blocking layer (Paragraph [0131],

lines 7-12) to enhance the electron conduction and electron injection properties of the hole blocking layer (Paragraph [0132], lines 1-2).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the phosphorescent material in both the emissive and hole blocking layers, as taught by Thompson (528), in the luminescent device of Motomatsu, to enhance the electron conduction and electron injection properties of the hole blocking layer.

**Regarding Claims 24 and 28,** Motomatsu discloses a display comprising the organic electroluminescent element (abstract, line 1).

**Regarding Claims 25 and 29,** Motomatsu discloses an illumination device comprising the organic electroluminescent element (abstract, line 1).

**Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu in view of Kim et al (US PG Pub. No. 2005/0170621).**

**Regarding Claim 5**, Motomatsu discloses in figure 4, an organic electroluminescent element (abstract, line 1) comprising an anode (2) and a cathode (6)having therebetween a light emitting layer (4) containing a luminescent compound, and electron blocking layer (8) provided adjacent to the light emitting layer (4)(Column 6, lines 4-6 discloses that doped layer (8) may function as an electron blocking layer) and between the light emitting layer (4) and the anode (2), wherein electron blocking layer (8) contains a luminescent compound; and a content of the luminescent

compound contained in electron blocking layer (8) is in the range of 0.1 to 20% of a content of the luminescent compound contained in the light emitting layer.

In Figure 4, the surface areas of the luminescent layer and the electron blocking layer will be the same but their volumes will be different. The thickness of the luminescent layer is 50 nm (Column 4, lines 30-31) and the thickness of the electron blocking layer (8) is 15 nm (Column 4, line 34)(Column 6, lines 12-15 discloses that the thicknesses of these layers will be the same as in the first embodiment). Therefore, the volume of the luminescent layer (4) is 50/15 times the volume of the electron blocking layer (8) or 3.33 times the volume. The doping of the luminescent layer (4) by volume is 1 to 10% (Column 5, lines 61-62) and the doping of the electron blocking layer (8) is .6 to 6% (Column 5, lines 63-64). Then the amount of material in the electron blocking layer (8) in relation to the amount of material in the luminescent layer (4) will be:

.6 %/(3.33)(1%) to 6%/(3.33)(10%) or .18 (18%) which is within the claimed range.

Motomatsu fails to disclose that the luminescent compounds used are phosphorescent.

In the same field of endeavor, Kim teaches an emissive layer containing a phosphorescent compound and an electron blocking layer with the same compound (Paragraph [0060], lines 20-23 Ir(ppy)3) Using this phosphorescent compound as the luminescent compound of Motomatsu, who uses the same material in both the emissive and electron blocking layers would result in the claimed structure above. Kim fails to teach why this compound is used.

Kim discloses the claimed invention except for why this material is used.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Ir(ppy)3 for these layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

**Claims 7, 9, 12, 14 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu in view of Thompson(528) and further in view of Kim (621).**

**Regarding Claim 7**, Motomatsu, as modified by Thompson (528), discloses in Figure 4, the organic electroluminescent element (abstract, line 1) wherein the luminescent compound contained in the light emitting layer (4) is the same as the luminescent compound contained in electron blocking layer (8)(Column 5, lines 44-48 and Column 6, lines 4-5) but fails to disclose that this compound is phosphorescent.

In the same field of endeavor, Kim teaches an emissive layer containing a phosphorescent compound and an electron blocking layer with the same compound (Paragraph [0060], lines 20-23 Ir(ppy)3) Using this phosphorescent compound as the luminescent compound of Motomatsu, who uses the same material in both the emissive and electron blocking layers would result in the claimed structure above. Kim fails to teach why this compound is used.

Kim discloses the claimed invention except for why this material is used.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Ir(ppy)3 for these layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

**Regarding Claim 9**, Motomatsu discloses in Figures 2 and 4, an organic electroluminescent element comprising an anode (2) and a cathode (6) having therebetween a light emitting layer (4) containing a luminescent compound(Column 4, lines 19-22 discloses that both the luminescent layer (4) and the hole blocking layer (7) are doped. Furthermore, Column 4, lines 38-39 discloses that layer (7) is also a hole blocking layer); hole blocking layer (7)(shown in Figure 2) provided adjacent to the light emitting layer and between the light emitting layer (4) and the cathode (6); and electron blocking layer (8) provided adjacent to the light emitting layer (4) and between the light emitting layer (4) and the anode (2)(shown in Figure 4. Also, Column 6, lines 15-21 discloses that both doped layers may be present in the same embodiment), wherein hole blocking layer 1 contains a luminescent compound (dopant); a content of the luminescent compound contained in hole blocking layer 1 is in the range of 0.1 to 20% of a content of the luminescent compound contained in the light emitting layer;

The surface areas of the luminescent layer and the hole blocking layer will be the same but their volumes will be different. The thickness of the luminescent layer is 50 nm (Column 4, lines 30-31) and the thickness of the hole blocking layer (7) is 15 nm

(Column 4, line 34). Therefore, the volume of the luminescent layer (4) is 50/15 times the volume of the hole blocking layer (7) or 3.33 times the volume. The doping of the luminescent layer (4) by volume is 1 to 10% (Column 4, lines 20-21) and the doping of the hole blocking layer (7) is .6 to 6% (Column 4, line 22). Then the amount of material in the hole blocking layer (7) in relation to the amount of material in the luminescent layer (4) will be:

.6 %/(3.33)(1%) to 6%/(3.33)(10%) or .18 (18%) which is within the claimed range.

Motomatsu fails to disclose that the luminescent compound used in the emissive and hole blocking layers is phosphorescent.

In the same field of endeavor, Thompson (528) teaches using a phosphorescent compound in both the emissive layer and the hole blocking layer (Paragraph [0131], lines 7-12) to enhance the electron conduction and electron injection properties of the hole blocking layer.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the phosphorescent material in both the emissive and hole blocking layers, as taught by Thompson (528), in the luminescent device of Motomatsu, to enhance the electron conduction and electron injection properties of the hole blocking layer.

Motomatsu discloses in Figure 4, the organic electroluminescent element (abstract, line 1) wherein the luminescent compound contained in the light emitting

layer (4) is the same as the luminescent compound contained in electron blocking layer (8)(Column 5, lines 44-48 and Column 6, lines 4-5) .

Motomatsu discloses the electron blocking layer 1 contains a luminescent compound; and a content of the luminescent compound contained in electron blocking layer 1 is in the range of 0.1 to 20% of a content of the luminescent compound contained in the light emitting layer.

In Figure 4, the surface areas of the luminescent layer and the electron blocking layer will be the same but their volumes will be different. The thickness of the luminescent layer is 50 nm (Column 4, lines 30-31) and the thickness of the electron blocking layer (8) is 15 nm (Column 4, line 34)(Column 6, lines 12-15 discloses that the thicknesses of these layers will be the same as in the first embodiment). Therefore, the volume of the luminescent layer (4) is 50/15 times the volume of the electron blocking layer (8) or 3.33 times the volume. The doping of the luminescent layer (4) by volume is 1 to 10% (Column 5, lines 61-62) and the doping of the electron blocking layer (8) is .6 to 6% (Column 5, lines 63-64). Then the amount of material in the electron blocking layer (8) in relation to the amount of material in the luminescent layer (4) will be:

.6 %/(3.33)(1%) to 6%/(3.33)(10%) or .18 (18%) which is within the claimed range. Finally, Column 6, lines 15-21 discloses that both doped layers (hole blocking and electron blocking may be present in the same embodiment.

Motomatsu fails to disclose that the material in the emissive layer and electron blocking layer is phosphorescent.

In the same field of endeavor, Kim teaches an emissive layer containing a phosphorescent compound and an electron blocking layer with the same compound (Paragraph [0060], lines 20-23 Ir(ppy)3) Using this phosphorescent compound as the luminescent compound of Motomatsu, who uses the same material in both the emissive and electron blocking layers would result in the claimed structure above. Kim fails to teach why this compound is used.

Kim discloses the claimed invention except for why this material is used.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Ir(ppy)3 for these layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

**Regarding Claim 12**, Motomatsu discloses the organic electroluminescent element wherein the luminescent compound contained in the light emitting layer is the same as the luminescent compound contained in hole blocking layer 1 (Column 4, lines 7-9) but fails to disclose that this material is phosphorescent

In the same field of endeavor, Thompson(528) teaches using a phosphorescent compound in both the emissive layer and the hole blocking layer (Paragraph [0131], lines 7-12) to enhance the electron conduction and electron injection properties of the hole blocking layer.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the phosphorescent material in both the emissive and hole blocking layers, as taught by Thompson (528), in the luminescent device of Motomatsu, to enhance the electron conduction and electron injection properties of the hole blocking layer.

**Regarding Claim 14**, Motomatsu discloses in Figure 4, the organic electroluminescent element (abstract, line 1) wherein the luminescent compound contained in the light emitting layer (4) is the same as the luminescent compound contained in electron blocking layer (8)(Column 5, lines 44-48 and Column 6, lines 4-5) but fails to disclose that this material is phosphorescent.

In the same field of endeavor, Kim teaches an emissive layer containing a phosphorescent compound and an electron blocking layer with the same compound (Paragraph [0060], lines 20-23 Ir(ppy)3) Using this phosphorescent compound as the luminescent compound of Motomatsu, who uses the same material in both the emissive and electron blocking layers would result in the claimed structure above. Kim fails to teach why this compound is used.

Kim discloses the claimed invention except for why this material is used.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Ir(ppy)3 for these layers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

**Regarding Claim 32,** Motomatsu discloses a display comprising the organic electroluminescent element (abstract, line 1).

**Regarding Claim 33,** Motomatsu discloses an illumination device comprising the organic electroluminescent element (abstract, line 1).

**Claims 2, 6 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu(909) in view of Thompson (528) and further in view of Wolk et al (US PG Pub. No. 002/0197554).**

**Regarding Claims 2 and 10**, Motomatsu, as modified by Thompson (528) fails to exemplify the organic electroluminescent element wherein the organic electroluminescent element further comprises hole blocking layer 2 provided adjacent to hole blocking layer 1 and between hole blocking layer 1 and the cathode.

In the same field of endeavor, Wolk teaches a transfer layer containing two layers both of which can be a hole blocking layer (Paragraph [0075], lines 1-15) in order that the important interfacial characteristics of the layers can be produced when the transfer unit is prepared and retained during transfer (Paragraph [0073], lines 1-6). Also, Paragraph [0007], lines 1-6 teaches that the transfer layers are between the anode and the cathode.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the two adjacent hole blocking layers as taught by Wolk into the electroluminescent element of Motomatsu, as modified by Thompson (528), in order

to that the important interfacial characteristics of the layers can be produced when the transfer unit is prepared and retained during transfer.

**Regarding Claims 6 and 11**, Motomatsu, as modified by Thompson (528), fails to exemplify the organic electroluminescent element wherein the organic electroluminescent element further comprises electron blocking layer 2 provided adjacent to electron blocking layer 1 and between electron blocking layer 1 and the anode.

In the same field of endeavor, Wolk teaches a transfer layer containing two layers both of which can be an electron blocking layer (Paragraph [0075], lines 1-15) in order to that the important interfacial characteristics of the layers can be produced when the transfer unit is prepared and retained during transfer (Paragraph [0073], lines 1-6). Also, Paragraph [0007], lines 1-6 teaches that the transfer layers are between the anode and the cathode.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the two adjacent electron blocking layers as taught by Wolk into the electroluminescent element of Motomatsu, as modified by Thompson (528), in order to that the important interfacial characteristics of the layers can be produced when the transfer unit is prepared and retained during transfer.

**Claims 4, and 13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu (909) in view of Thompson et al (US PG Pub. No. 2003/0059647).**

**Regarding Claims 4 and 13**, Motomatsu fails to exemplify the organic electroluminescent element wherein the phosphorescent compound contained in the

light emitting layer is different from the phosphorescent compound contained in hole blocking layer 1.

Thompson (647) teaches the organic electroluminescent element wherein the phosphorescent compound contained in the light emitting layer is different from the phosphorescent compound contained in hole blocking layer 1. (Paragraph [0109], lines 24-27 discloses using Firpic for the hole blocking layer while using CBP doped with $Ir(ppy)_3$ for the emissive layer (light emitting layer) to improve the electron conduction and injection properties of a hole blocking layer (Paragraph [0109], lines 6-9).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate the different materials in the light emitting and hole blocking layers, as taught by Thompson (647) in the elements of Motomatsu, to allow one to provide a material in the hole blocking layer that would improve the electron conduction and injection properties.

**Claims 23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu (909) in view of Thompson (528) and further in view of Thompson et al (US Patent No. 6,951,694).**

**Regarding Claims 23 and 27,** Motomatsu, as modified by Thompson (528), fails to exemplify the organic electroluminescent element emitting white light.

In the same field of endeavor, Thompson (694) teaches Column 20, line 40 white light emission that is of high quality and voltage independent.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the white light of Thompson (694) into the electroluminescent

element of Motomatsu, as modified by Thompson (528)in order to have a high quality and voltage independent emission.

**Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu (909) in view of Thompson (528) and Thompson (694) and further in view of Kim (621).**

**Regarding Claim 31,** Motomatsu, as modified by Thompson (528) and Kim, fails to exemplify the organic electroluminescent element emitting white light.

In the same field of endeavor, Thompson (694) teaches Column 20, line 40 white light emission that is of high quality and voltage independent.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the white light of Thompson (694) into the electroluminescent element of Motomatsu, as modified by Thompson (528) and Kim, in order to have a high quality and voltage independent emission.

**Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu (909) in view of Thompson (528) and further in view of Thompson et al (US PG Pub. No. 2003/0124381).**

**Regarding Claims 8 and 15**, Motomatsu, as modified by Thompson (528), fails to exemplify the organic electroluminescent element wherein the phosphorescent compound contained in the light emitting layer is different from the phosphorescent compound contained in electron blocking layer I.

Thompson (381) teaches in Paragraph [0092], line 16 an electron blocking layer comprising Ir(ppy)3 and an emissive layer containing Firpic (Paragraph [0029], lines 4-5).Thompson provides this compound to produce a white light emission from multiple emissive centers (abstract).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to incorporate the different material layers of Thompson (381) as the luminescent material, in the device of Motomatsu, as modified by Thompson (529), in order to produce a white light emission from multiple emissive centers.

**Claims 26, 30 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motomatsu (909) in view of Kim (621) and further in view of Lamansky et al (US PG Pub. No. 2002/0182441).**

**Regarding Claims 26, 30, and 34,** Motomatsu, as modified by Kim, fails to exemplify a display comprising a liquid crystal cell and the illumination device.

Lamansky teaches in (Paragraph [0010], lines 14-15) using illumination devices (organic light emitting devices (line 1)) in liquid crystal displays because of their bright colors, wide viewing angle and low power requirements.(lines 9-12)

It would have been obvious to one of ordinary skills in the art, at the time of the invention, to incorporate the illumination device of Motomatsu in the liquid crystal device of Lamansky, as modified by Kim, to provide bright colors, wide viewing angle and low power requirements in the liquid crystal device.

***Response to Arguments***

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection. The change of the percentage limitation from 50% to 20% necessitates new grounds for rejection.

Applicant's arguments with respect to claims 16, 18 and 20 that the percentage of light emitted can not be deduced from the percentage of dopant in the two layers is persuasive. Therefore, the rejection of these claims has been withdrawn.

***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance.

**Regarding Claim 16**, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in Claim 16, and specifically comprising the limitation of "wherein the hole blocking layer contains a phosphorescent compound so that an amount of light emitted from hole blocking layer is in the range of 0.1 to 50% of an amount of light emitted from the light emitting layer".

**Regarding Claims 17 and 35-38**, they are allowable for the reasons given in Claim 16 because of their dependency status on Claim 16.

**Regarding Claim 18**, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in Claim 18, and specifically comprising the limitation of "wherein electron blocking layer contains a phosphorescent compound so that an amount of light emitted from electron blocking layer is in the range of 0.1 to 50% of an amount of light emitted from the light emitting layer".

**Regarding Claims 19 and 39-42**, they are allowable for the reasons given in Claim 18 because of their dependency status on Claim 18.

**Regarding Claim 20**, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in Claim 20, and specifically comprising the limitation of "wherein the hole blocking layer contains a phosphorescent compound so that an amount of light emitted from hole blocking layer is in the range of 0.1 to 50% of an amount of light emitted from the light emitting layer; and an electron blocking layer contains a phosphorescent compound so that an amount of light emitted from electron blocking layer is in the range of 0.1 to 50% of an amount of light emitted from the light emitting layer".

**Regarding Claims 21-22 and 43-46**, they are allowable for the reasons given in Claim 20 because of their dependency status on Claim 20.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONALD L. RALEIGH whose telephone number is (571)270-3407. The examiner can normally be reached on Monday-Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter J Macchiarolo/
Primary Examiner, Art Unit 2879

/Donald L Raleigh/
Examiner, Art Unit 2879